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RESOURCE CONSERVATION IN IOWA



U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
DES MOINES, IOWA

IOWA ASSOCIATION
OF
SOIL CONSERVATION DISTRICTS

FOREWORD



The State Soil Conservation Committee provides leadership, guidance and financial support to Soil Conservation Districts. The State of Iowa, through the Iowa General Assembly, is one of the Nation's leaders in providing support to soil and water conservation.

Iowa is a 56,000 square mile area of some of the world's most fertile agricultural land. It has more acres of cropland than half the other states combined.

Iowa lies between two great rivers, the Mississippi and the Missouri, and is served by two major rivers of its own, the Des Moines and the Iowa, plus a host of smaller streams.

There are 2.7 million people living in Iowa who depend on the State's two major natural resources — soil and water.

Iowa has 100 local soil conservation districts serving every county in the State. These districts are managed by local commissioners who represent the people they serve. Their program of soil and water conservation is tailored to the District's own needs.

We in the Soil Conservation Service, an agency of the United States Department of Agriculture, provide on-the-land technical help to these districts and the resource users and managers cooperating with them. The conservation concepts used in helping local people develop their resources and solve their problems is the subject of this booklet.

Conservation as it relates to the total environment is a must if the three important resources—land, water, and people—continue to serve our needs in the years ahead.

Wilson T. Moon
State Conservationist
Soil Conservation Service
USDA

Cost of printing the covers for this booklet was provided by the Iowa Association of Soil Conservation District Commissioners. We appreciate the Association's cooperation which enabled us to produce a better quality publication.



LAND

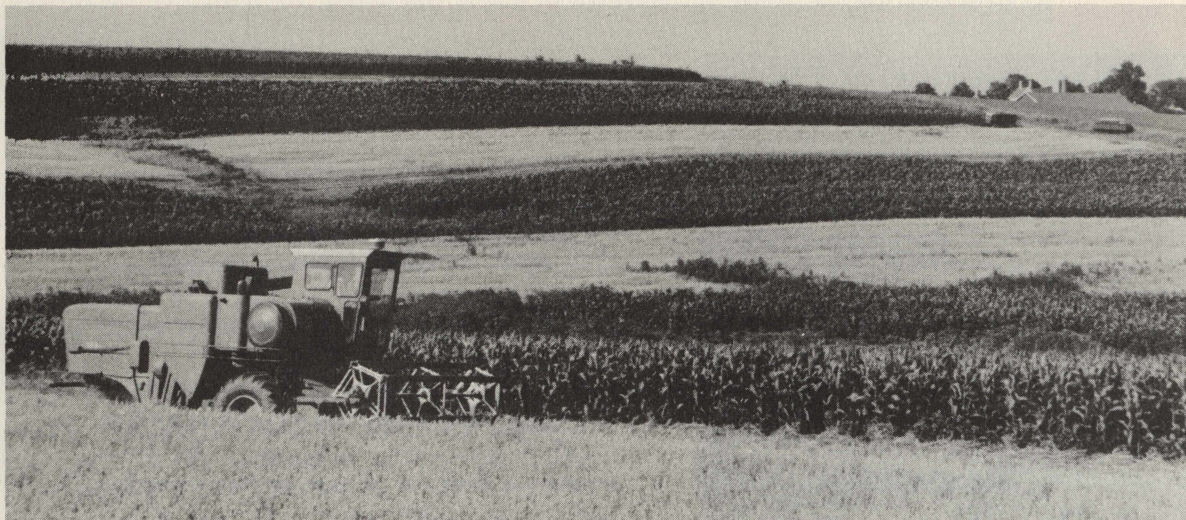
The United States bought Iowa in the Louisiana Purchase at a per acre price less than the cost of a postage stamp. Today it is the heart of America's "bread basket" and produces 10 percent of the Nation's food supply. Its deep prairie soils are the key.

Ninety-five percent of Iowa's 36 million acres is agricultural land. Most of the land is used for growing row crops—corn and soybeans. This makes the use of sound conservation measures imperative to maintain the high yields characteristic of Iowa's agriculture.

The Soil Conservation Service, assisting Iowa's 100 local soil conservation districts, has helped farmers and other landowners plan conservation treatment to keep the land protected. Planning, based on soil surveys, considers the needs of the land and its owner.



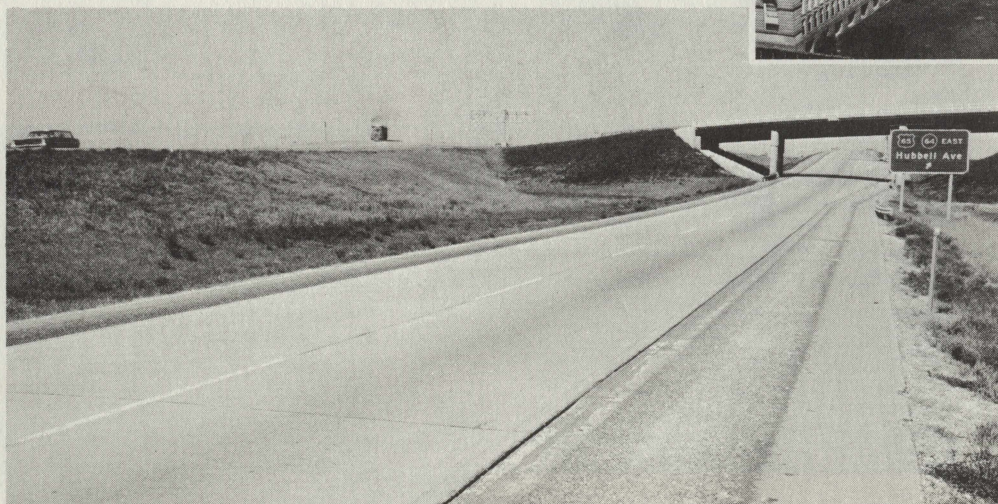
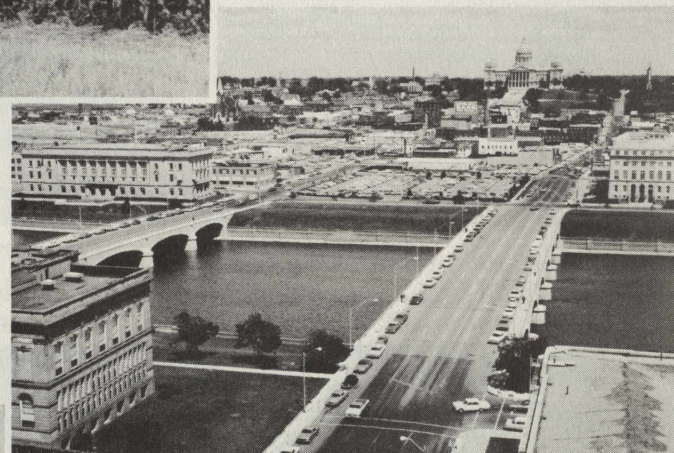
SOIL SURVEYS are an inventory of land resources scientifically determined and recorded on aerial photographs. Soil scientists of the Soil Conservation Service, in cooperation with Iowa State University, are inventorying Iowa's soils at a rate of one and a quarter million acres per year. Interpretations are made for many uses.

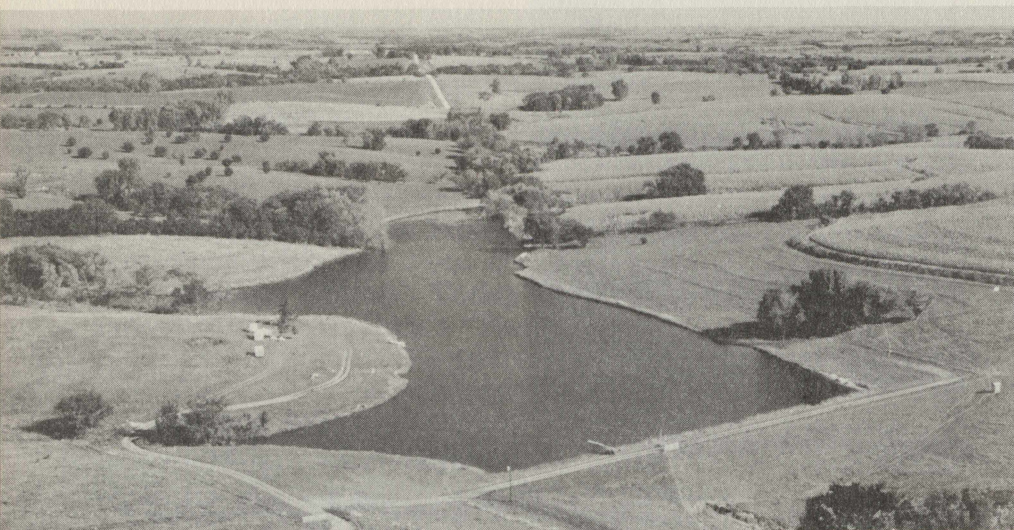


Soil surveys point out the suitability of
land for agriculture.....

.....for urban and
industrial develop-
ment.....

.....and for construction





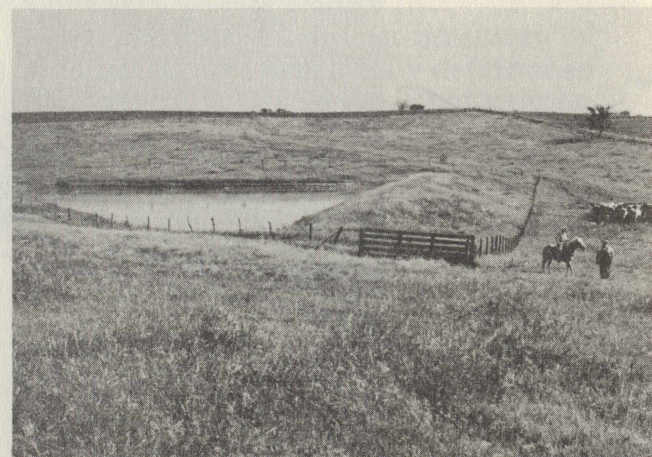
WATER

Iowa's 32-inch average rainfall brings either problems or benefits, depending on how it is managed. If the land is adequately protected, raindrops enter the soil to give life to crops. Unprotected land yields floods and sediment.

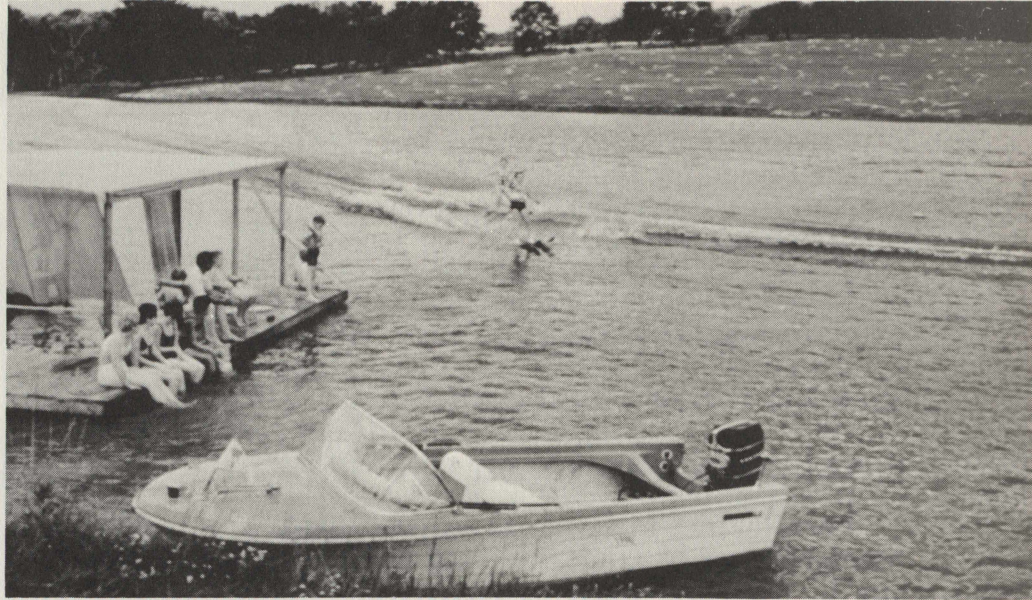
Runoff water caught and stored in farm ponds or reservoirs can be used for many purposes. It becomes a source of water for people to enjoy; plants and animals to live by.

Or it may be used in homes, factories, and cities.

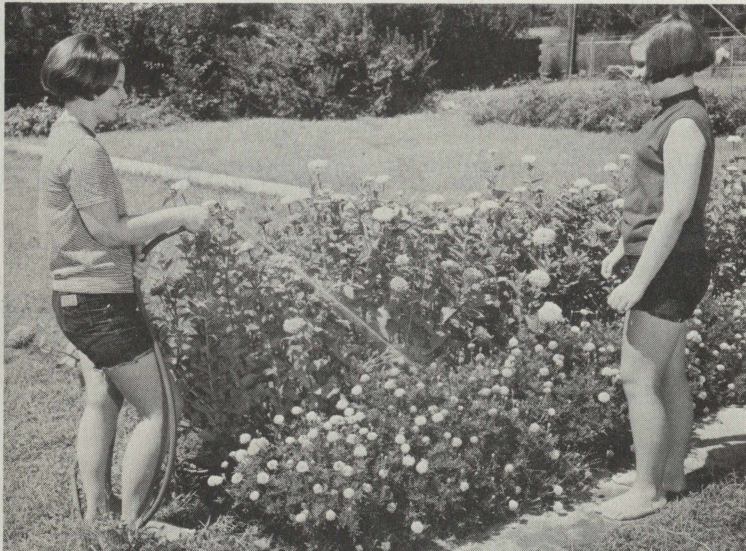
And you just might catch a big one in a farm pond



Accelerated treatment of Iowa's small watersheds for reduction of erosion and flooding, through Public Law 566, has brought benefits to many communities. Sponsored by Iowa's soil conservation districts, with cooperation from local governments, these projects harness runoff water to prevent floods and turn them into a host of beneficial uses. Technical help to plan and design project features is provided by the Soil Conservation Service. Cost-sharing through Public Law 566 has helped local people solve their water-related problems.



SMALL WATERSHED projects store water for recreation; help stabilize water supplies for cities and industries downstream; and sustain the beauty of the countryside.



PEOPLE

Conservation is of, by and for people. People decide for themselves how they will use and treat their natural resources.

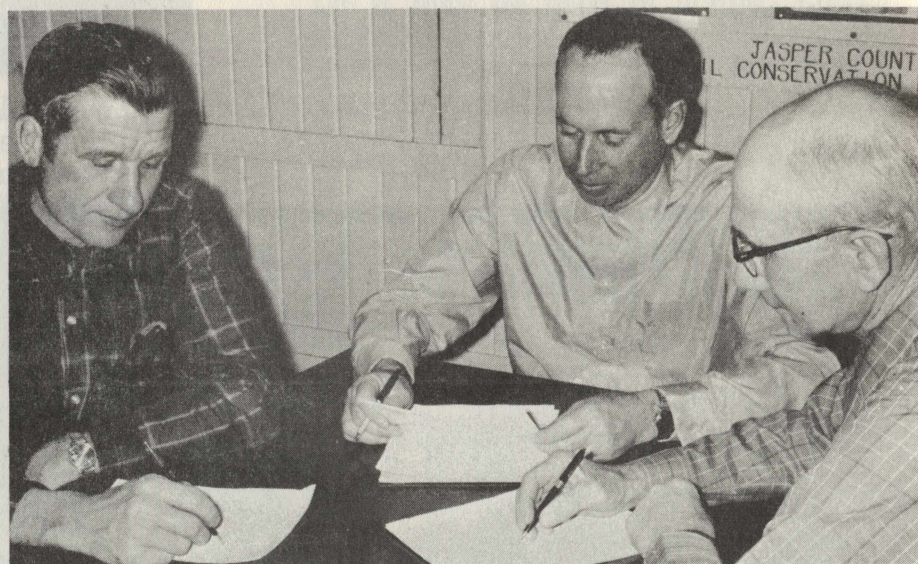
Commissioners of Iowa's 100 local soil conservation districts are at the grass roots of the conservation movement in Iowa. Districts are organized under State law enacted by the Legislature in 1939. Every county in Iowa is a part of a local district. Commissioners meet regularly to conduct the business of their district, and the meetings are open to the public.

Each district in Iowa has entered into a Memorandum of Understanding with both the U. S. Department of Agriculture and the Soil Conservation Service. Through these instruments, USDA and SCS provide technical help to work with landowners and other resource managers.

Other agencies, local governments, clubs, youth groups, colleges, universities, and individuals join the team. Schools help youngsters develop a deeper appreciation for natural resources. Our churches remind citizens of their duty as stewards of nature's bounty.

Many state and federal agencies lend a hand to strengthen the conservation program.

People work together in conservation to make Iowa a better place to live, work, and play.



Board of Commissioners of the Jasper County Soil Conservation District. Left to right are Harold Tiedje, Gaylord Faidley, Roy Sharp.


Photo - Courtesy Jasper County Soil Conservation District



Fifth and sixth grade students in the Boone County Soil Conservation District study conservation with District Conservationist Ernest Behn of the Soil Conservation Service.

Below Boy Scout Steve Mueller of Kossuth County is interested in this jack pine that is half his age but twice his height.





EROSION: Water

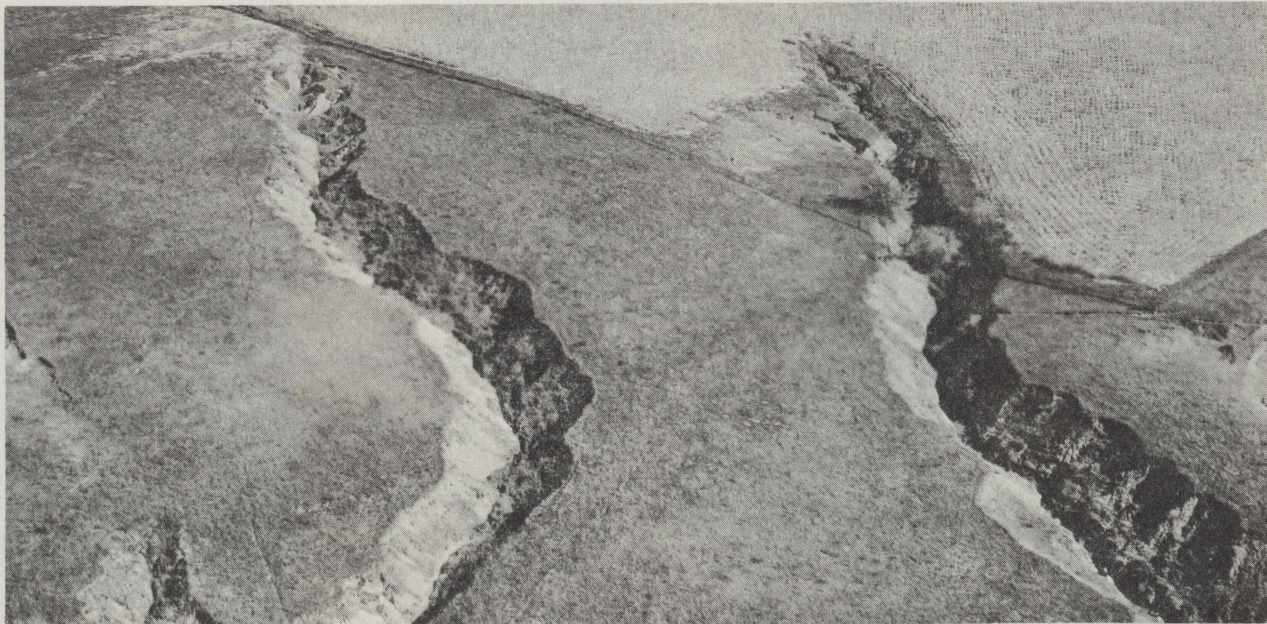
Erosion is the worst single enemy of land resources. It is ugly, wasteful, and totally unnecessary. It robs our valuable topsoil, destroys fertility of the land, takes away roads and bridges, covers other good land with silt, and loads our streams with pollution.

Troubles with water erosion may begin when a raindrop strikes the earth. Its force loosens soil particles and leads them into suspension, where runoff water may take them away. Conservation practices break the impact of the raindrop and slow it down. Controlled runoff water leaves the soil where it belongs.

Gullies eat away tons of soil. They leave scars that take years to heal. Yet gully erosion is less troublesome than the stealthy, subtle wearing away of sheet erosion—thin layers of soil that leave with every rain. Up and downhill farming, exposed roadbanks, barren city lots, all are victims and culprits in sheet erosion.

Modern conservation must begin with controlling erosion, then move on to resource development.

Would you believe the gully picture below is in Iowa?

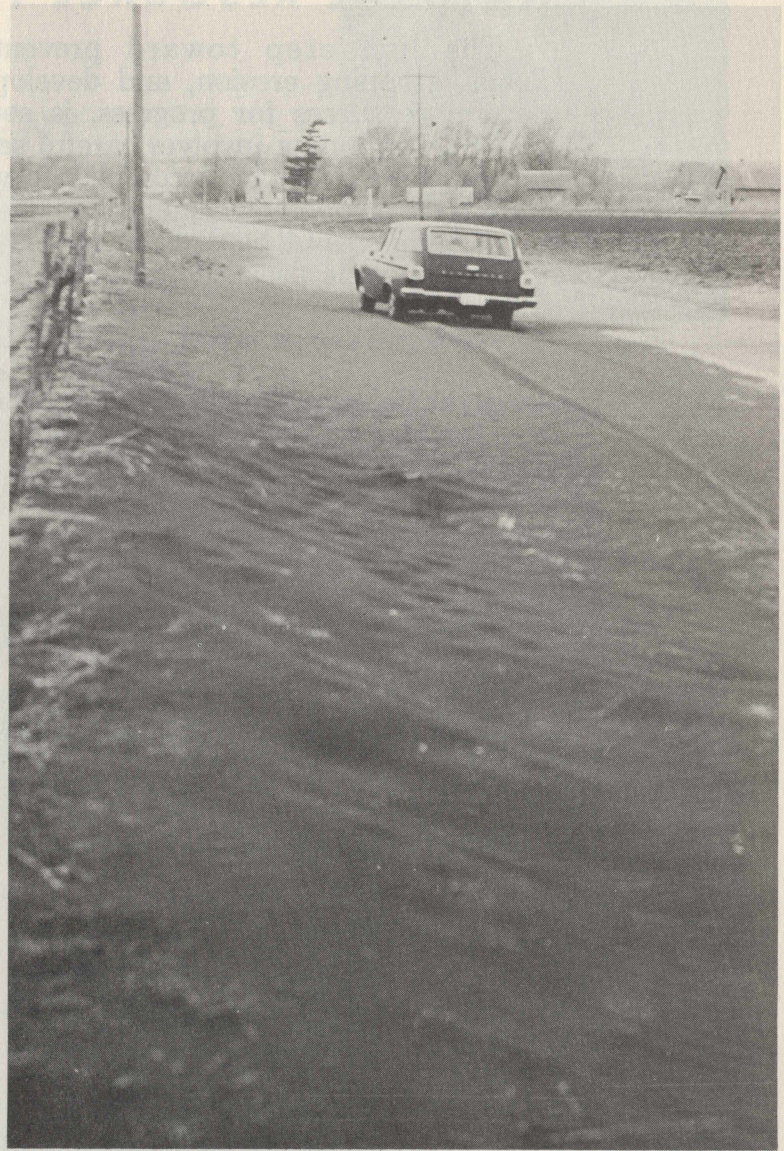
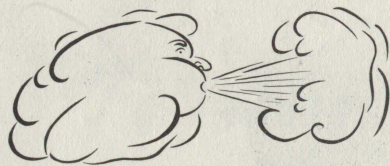


EROSION: Wind

Wind blowing across bare soil picks up soil particles and moves them to where they may not be needed or wanted. This is wind erosion, an increasing menace to Iowa's soil resources.

Wind borne soil particles pollute the air, endanger travelers, fill road ditches, filter into homes, and their rasping action damages other objects. Worst, they represent a loss of good topsoil from the place they came from. They bring a needless expense of tax money to move them out of roads and away from fences.

Technical help to plan and apply a combination of conservation techniques to halt wind erosion is available through Iowa's local soil conservation districts. The folly of losing good soil to the winds cannot be tolerated in this modern age.



NATURAL RESOURCE PLANNING

The first step toward preventing floods, stopping erosion, and developing natural resources for progress, is sound planning. Planning involves careful selection of the aims to be accomplished with resources, proper consideration of the needs, limits, and hazards involved, and deciding on the use and treatment to be followed.

Each soil conservation district in Iowa has access to a staff of technicians to assist in planning. Whether it is a farm, a watershed, a factory site, an urban area, a school site, or any spot involving soil, water, or plant resources, planning help can be had.

Planning begins with an inventory of resources—a soil survey, natural drainage pattern, or geographic studies. These become basic facts in planning. Engineering details may be added if needed.

Local SCS technicians lend day to day support to resource planners. More complex needs may be met by area staffs or by planning parties at the state level. These services are available by applying to the soil conservation district.

Carefully planned conservation saves waste and results in better resource use.

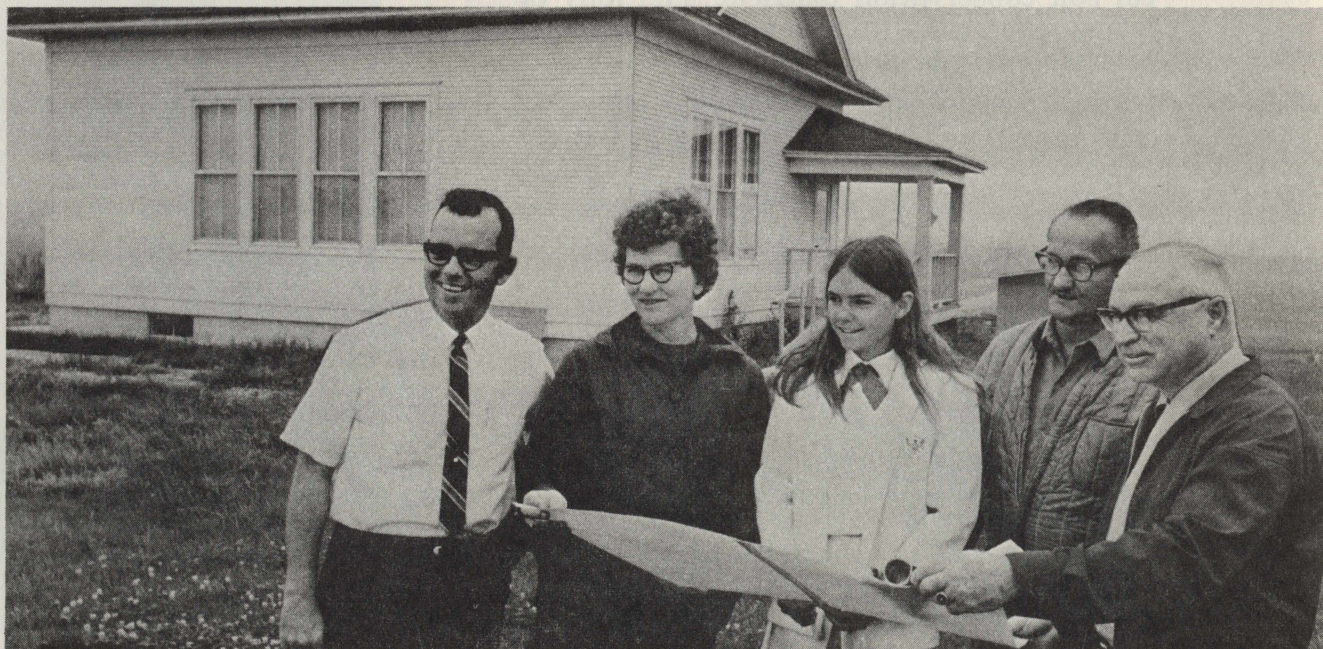


Photo - Courtesy Jasper County Soil Conservation District

CONSERVATION USE AND TREATMENT

Planned conservation treatment applied to the land is the aim of Iowa's soil conservation districts. SCS provides technical help through the districts to apply these practices. Using research and experimentation done by other agencies, and experiences of conservation farmers and others, SCS designs practices to fit the needs of the land and the landowner. Choice of practices is made by the owner in the planning process.



MULCH TILLAGE. Thousands of Iowa farmers now plant crops without plowing the land. Special planters leave old stalks undisturbed so they can protect the land during the early spring when most of the erosion occurs on plowed land. Mulch tillage is a conservation method, and it reduces production costs.

PASTURES

Increased numbers of cow-calf beef herds in Iowa create a need for new or improved pastures. Applying fertilizer, adding legumes such as birdsfoot trefoil, and controlled stocking with cattle have increased beef production. Better pastures offer better protection for the land, too.

Many acres of land in Iowa, because of soil, slope, or erosion conditions, are better suited to grass than row crops. These acres often yield more profit per acre in pasture than when in corn or other crops.

Planning ahead for pasture establishment or improvement assures proper order or steps toward success. Technicians of the Soil Conservation Service assisting local soil and water conservation districts suggest methods of improvement based on knowledge of the soil and the plants that grow well on them.

Grasses and legumes tie down the soil with their roots. They increase the rate and amount of water that will soak into the soil.



POOR MANAGEMENT



GOOD MANAGEMENT



TERRACING AND CONTOUR FARMING

Iowa's modern conservation farmers are building new style parallel terraces at a rate of more than 700 miles per year. These new terraces make multi-row farming easier. They feature tile outlets in lieu of grassed waterways. They help control erosion and increase water intake into the soil.

By shaping the land as they build the

terraces, farmers are able to fashion reasonably flat areas between terraces. Planting grass on the backslopes keeps down scouring and protects the terrace.

Since Iowa is a major row crop state, such practices as terraces and mulch tillage meet the needs of the land.



AGRICULTURAL WATER MANAGEMENT

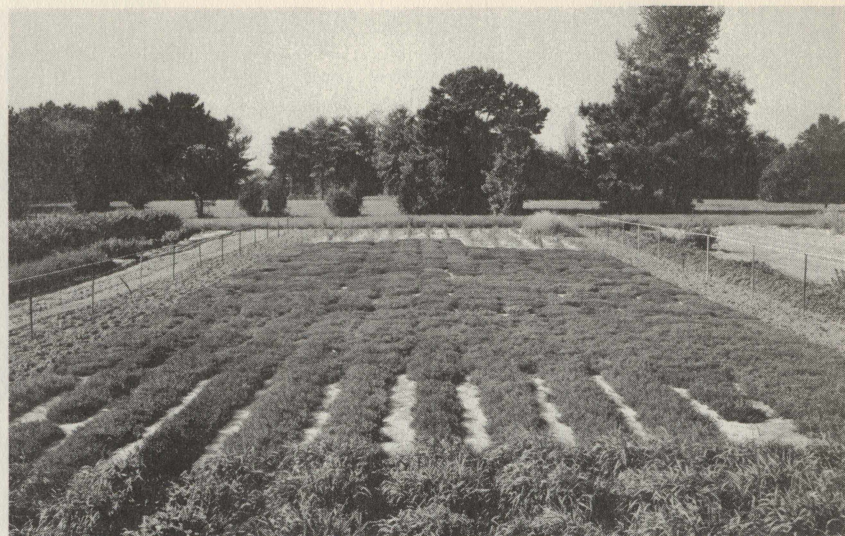
Water controlled by terraces or stripcropping is further managed by grassed waterways or tile drains to keep runoff from forming a gully or collecting in a low area.

Natural drainageways, seeded to grass and legume crops, serve as grassed waterways and also provide hay or grazing.

Tile drains dispose of excess water in low areas, even in grassed waterways if needed.

These are the extra steps toward complete agricultural water management.





Above: Plant test plots at the Plant Materials Center.

Left: Crownvetch protects this Iowa roadside from erosion.

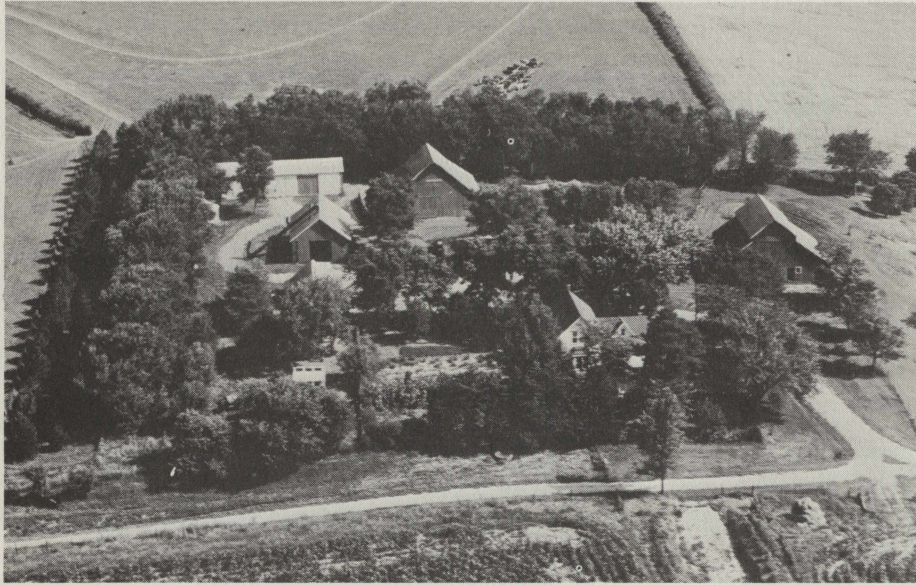
PLANT MATERIALS

Plant scientists in the Soil Conservation Service are continually striving to find new plants and new uses for old plants in conservation. The test is whether these plants help control erosion or provide better economic return.

Uses for such plants as reed canarygrass, birds-foot trefoil, and crownvetch have been found by extensive evaluation. Field plantings of other new species show prospect for the future.

Testing is done at plant materials centers operated by the Soil Conservation Service. Plants are released to soil conservation districts for field plantings and observation. As many as 10-15 years are often needed to fully evaluate a plant before it is recommended for conservation use.

Iowa is served by the SCS Plant Materials Center at Elsberry, Missouri.



WOODLAND CONSERVATION

There are 2½ million acres of woodland in Iowa. Many acres, because they are steep, shallow, or eroded, should be planted to trees. Much of the land now in trees is managed for the most economical return and to maintain the forest cover on the land.

Trees are protectors, too. Planted in rows around the farmstead they break the force of the wind. These windbreaks also help keep down wind erosion and provide shade for family picnics. They also protect cattle from the winter weather. Birds nest and feed in them.

Even though wood products are not a major crop in Iowa, some areas produce sawlogs and other materials enough to be important to the local economy.



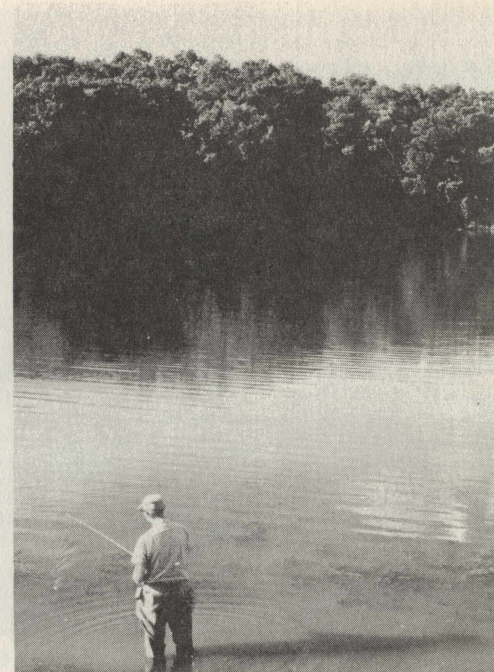
WILDLIFE CONSERVATION

Sound conservation planning for the use and treatment of the land will include provisions for wildlife. Odd areas of fields, borders, and land not suitable for crops or pasture, make good wildlife habitat.

Soil Conservation Service biologists have suggested plants and planting patterns to serve this need. Dwarf purple willow, pictured below, is one of these. Planted around a farm pond, they attract many forms of wildlife. These creatures seek only food, cover, and water for their life.

Iowa's many farm ponds are sources of water storage, fish, and fun. Ponds built for other purposes are normally stocked with fish by state and federal agencies cooperating with local soil conservation districts. And fishing is usually good in a well-stocked, properly managed farm pond.

Crop residues left for wind erosion control, wildlife area plantings, and ponds all add up to good pheasant hunting. These and other wildlife forms help control insects and add beauty to the land.





URBAN CONSERVATION

Erosion problems have gone to town. In these days of accelerated progress in home building, industry expansion, and building of new roads, land in transition is exposed to action of water and wind.

Soil conservation districts in Iowa are prepared to lend assistance to solve erosion problems wherever and whenever they occur. SCS soil scientists have interpreted soil surveys into many important facts for builders and contractors.

Home buyers like their houses built on soils without problems, and their topsoil kept on their lots for growing lawns and gardens.

Non-farm erosion has become an alarming source of sediment that pollutes streams.



CONSERVATION ON THE ROADSIDE

Roadsides can be beautiful, protected, and safe. Steep banks, raw ditches, and barren rights-of-way produce tons of silt to pollute streams and cover fields with sediment.

Iowa's local soil conservation districts urge road builders and taxpayers to place and maintain protective cover on our roadsides.

Crownvetch protects and beautifies the road cut along Interstate 80 in the lower picture. It produces pretty flowers, too.

Motorists crossing Iowa may see little more than our roadsides by which to judge our state.

RIVER BASIN PLANNING

Iowa lies in two great river basins, the Mississippi and the Missouri. The Soil Conservation Service is a partner with other state and federal agencies in comprehensive planning for river basin development. These plans have as their objective the full use and development of all water and related land in these basins.

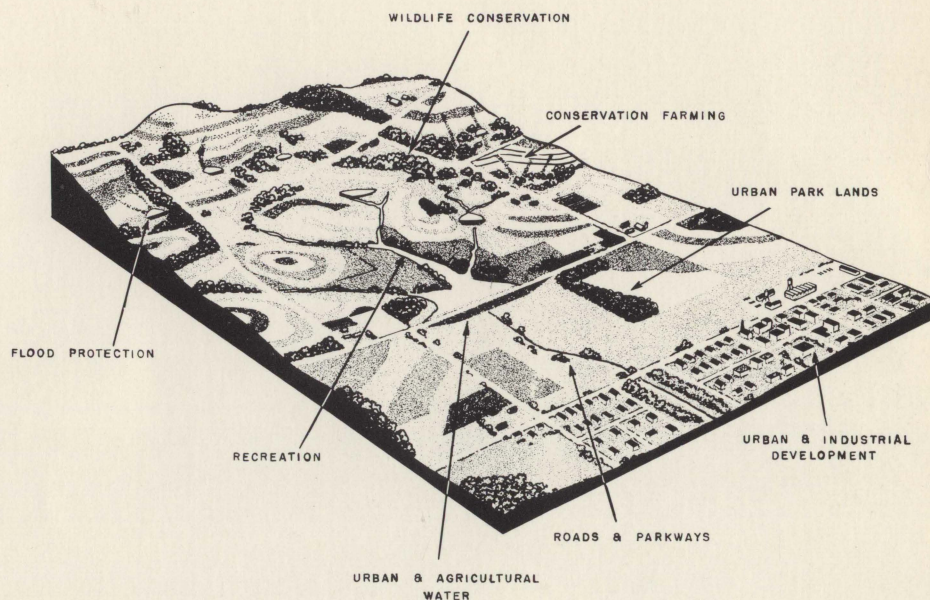


RESOURCE CONSERVATION AND DEVELOPMENT

Resource conservation and development projects are part of a concept in conservation in which local communities organize to plan for and develop all their resources — natural and human — for the betterment of all. Soil conservation districts serve as focal points and provide technical services from the Soil Conservation Service and other agencies in the development process.

RC&D projects result in better use of soil and water, new and expanding industry, fuller employment, adequate health and educational services, and a better place to live, work, and play.

RC&D gives every segment of the community a chance to share in both the responsibilities and the benefits.



ASSISTING IOWA'S 100 SOIL CONSERVATION DISTRICTS

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